

ABSTRACT OF THE DISCLOSURE

A chemical vapor deposition (CVD) apparatus includes a deposition chamber defined partly by a chamber wall. The chamber wall has an innermost surface inside the chamber and an outermost surface outside the chamber. The apparatus further includes a valve body having a seat between the innermost and outermost surfaces of the chamber wall. The chamber wall can be a lid and the valve can include a portion of the lid as at least a part of the seat. The valve body can include at least a part of a valve housing between the innermost and outermost surfaces of the chamber wall. Such a valve body can even include a portion of the chamber wall as at least part of the valve housing. The deposition apparatus can further include at least a part of a process chemical inlet to the valve body between the innermost and outermost surfaces of the chamber wall. In one example, the chamber wall can form at least a part of the chemical inlet. A deposition method includes temporarily isolating a process chemical supply line from a deposition chamber at a chamber wall of the deposition chamber. While isolated at the chamber wall, the supply line can be filled to a first pressure with chemical through a supply valve upstream from the chamber wall. The chemical can be released from the supply line into the deposition chamber at the chamber wall. The supply line can be again temporarily isolated from the deposition chamber at the chamber wall.